Loads

Frame fixing SXRL

Permissible loads[1)2)3)] of a single anchor as part of a multiple fixing of non-structural systems.
For the design the complete assessment ETA-07/0121 of 20.12.2022 has to be considered.

Type			SXRL 8			SXRL 10			SXRL 14	
Drill hole diameter	d_0	[mm]	8	8	8	10	10	10	14	14
Anchorage depth	$h_{nom} \geq$	[mm]	50	70	90	50	70	90	70	90
Anchorage in concrete ≥ C12/15										
Permissible tensile load N_{perm}		[kN]	1.59	1.98	1.98	1.98	2.58	2.58	3.37	3.37
Permissible shear load V_{perm}	zinc coated screw (gvz)	[kN]	4.23	4.23	4.23	5.98	5.98	5.98	12.40	12.40
	stainless steel screw (R)	[kN]	3.93	3.93	3.93	5.98	5.98	5.98	11.63	11.63
Minimum member thickness	h_{min}	[mm]	80	100	120	100	100	120	110	130
Characteristic edge distance	$c_{cr,N}$	[mm]	85	85	85	140	140	140	140	140
Characteristic spacing	a resp. $s_{cr,N}$	[mm]	90	105	105	120	120	120	135	135
Minimum spacing	s_{min}	[mm]	85	85	85	70	70	70	85	85
with an edge distance	c ≥	[mm]	85	85	85	140	140	140	140	140
Minimum edge distance	c_{min}	[mm]	85	85	85	70	70	70	85	85
with a spacing	s ≥	[mm]	85	85	85	175	175	175	175	175
Anchorage in narrow concrete members (h ≥ 40 mm) made of concrete ≥ C12/15										
Permissible tensile load N_{perm}		[kN]	–	–	–	0.99	–	–	–	–
Permissible shear load V_{perm}		[kN]	–	–	–	5.98	–	–	–	–
Anchorage in masonry[4)]										
Permisible load F_{perm} in solid brick Mz	≥ NF 12/1.8	[kN]	0.43	0.57	0.57	0.57[6)]	1.14	1.14	0.71	0.71
	≥ NF 28/1.8	[kN]	0.86	1.29	1.29	1.29[6)]	1.43[6)]	1.43[6)]	1.57	1.57
Permissible load F_{perm} in solid sand-lime brick KS	≥ NF 12/1.8	[kN]	0.34[6)]	0.26[6)]	0.26[6)]	–	0.71	0.71	0.57	0.57
	≥ NF 28/1.8	[kN]	0.57	0.57	0.57	–	1.57	1.57	1.29	1.29
Permissible load F_{perm} in solid sand-lime brick Vbl	≥ 8 DF 2/1.6	[kN]	0.17[6)]	0.26[6)]	0.26[6)]	0.26[6)]	0.57[6)]	0.57[6)]	0.43[6)]	0.43[6)]
	≥ 8 DF 8/1.6	[kN]	0.71[6)]	0.86[6)]	0.86[6)]	0.86[6)]	2.14[6)]	2.14[6)]	1.00[6)]	1.00[6)]
Permissible load[5)] F_{perm} in vertically perforated brick HLz	≥ 2 DF 12/1.2	[kN]	0.17[6)]	0.17[6)]	0.17	–	0.26[6)]	–	0.71[6)7)]	0.71[6)7)]
	≥ 2 DF 28/1.2	[kN]	0.34[6)]	0.34[6)]	0.43	–	0.57[6)]	–	–	–
Permissible load F_{perm} in perforated sand-lime brick KSL	≥ 2 DF 12/1.6	[kN]	0.26	0.43	0.34[6)]	–	0.71[6)]	0.71	0.57	0.71
Permissible load[5)] F_{perm} in hollow lightweight concrete blocks Hbl	≥ 2/0.8	[kN]	0.34[6)]	0.34[6)]	0.34[6)]	0.34[6)]	0.43[6)]	–	0.57[6)]	0.43[6)]
Permissible load[5)] F_{perm} in ceilings made of vertically perforated bricks	≥ 8/0.7	[kN]	–	–	–	–	0.57[6)]	–	–	–
Minimum member thickness	h_{min}	[mm]	115	115	115	110	110	110	115	115
Minimum spacing (single anchor)	a_{min}	[mm]	250	250	250	250	250	250	250	250
Minimum spacing (anchor group)	s_{min}	[mm]	100	100	100	100	100	100	100	100
Minimum edge distance (anchor group)	c_{min}	[mm]	100	100	100	100	100	100	100	100
Anchorage in aerated concrete[4)]										
Permissible load F_{perm}	AAC ≥ 2 N/mm²	[kN]	–	0.14	0.21	–	0.18	0.21[8)]	0.32	0.43
in aerated concrete	AAC ≥ 6 N/mm²	[kN]	–	0.54	0.71	–	0.89	1.10[8)]	1.43	1.79
Permissible load F_{perm}	AAC ≥ 2 N/mm²	[kN]	–	–	–	–	0.18[9)]	0.18[9)]	-	-
in reinforced aerated concrete	AAC ≥ 6 N/mm²	[kN]	–	–	–	–	1.07[10)]	1.25[10)]	-	-
Minimum member thickness	h_{min}	[mm]	–	175	175	–	100	120	175	175
Minimum spacing (single anchor)	a_{min}	[mm]	–	250	250	–	250	250	250	250
Minimum spacing (anchor group)	s_{min}	[mm]	–	80/110[11)]	80/110[11)]	–	100/120[11)]	100/120[11)]	80	100
Minimum edge distance (anchor group)	c_{min}	[mm]	–	90/110[11)]	90/110[11)]	–	120	120	120	120

1) Valid for zinc coated screws (gvz) and for screws made of stainless steel (R). For exterior use of the zinc coated screws measures against incoming humidity according to ETA have to be taken.
2) The required partial safety factors for material resistance as well as a partial safety factor for load actions $\gamma_L = 1.4$ are considered.
As a single anchor counts e.g. an anchor with a minimum spacing a according to annexes of the ETA.
3) Valid for temperatures in the substrate up to +50 °C (resp. short term up to +80 °C). For long term temperatures up to +30 °C higher permissible loads may be possible.
4) Valid for tensile load, shear load and oblique load under any angle. For bending moments and non-visible or non-mortared masonry joints, the design specifications of the ETA must be observed. Masonry properties in min. compressive strength [N/mm²] and density [kg/dm³] e.g. for Mz as 12/1.8. The corresponding average stone compressive strengths according to EN 771 and other masonry variants and geometries can be found in the ETA.
5) Rotary drilling.
6) Only for axial distance s ≥ 250 mm.
7) Valid for HLz ≥ 3 DF 12/1.0.
8) Only for axial distance $s_{1,min} \geq 240$ mm and $s_{2,min} \geq 250$ mm.
9) Valid for member thickness $h_{min} \geq 175$ mm. Minimum spacing and edge distances see ETA.
10) Valid for member thickness $h_{min} \geq 240$ mm. Minimum spacing and edge distances see ETA.
11) Valid for AAC with compression strength ≥ 6 N/mm².

Loads

Frame fixing SXRL 8

Recommended loads[1)2)3)] for a single anchor as part of a multiple fixing of non-structural systems.
The given loads are valid for wood screws acc. DIN 571 with the specified diameter.

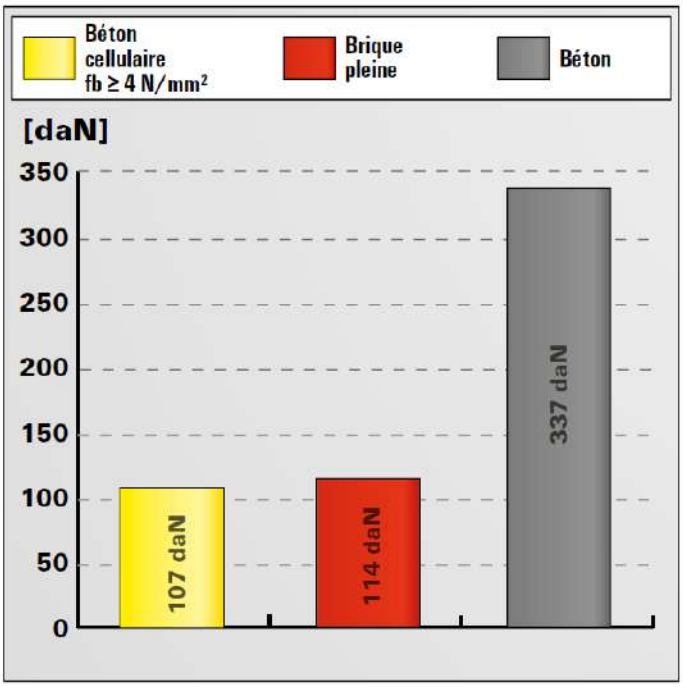
Type			SXRL 8		
Screw diameter		**[mm]**	6.0	6.0	6.0
Anchorage depth	h_{nom}	**[mm]**	50	70	90
Minimum edge distance concrete	c_{min}	**[mm]**	60	80	100
Recommended loads in the respective base material F_{rec} [2)]					
Concrete	≥ C20/25	**[kN]**	0.60	1.00	1.00
Solid brick	≥ Mz 12	**[kN]**	0.45	0.60	0.60
Solid sand-lime brick	≥ KS 12	**[kN]**	0.40	0.50	0.50
Vertically perforated brick	≥ HLz 12; $\rho \geq 1.0$ [kg/dm^3]	**[kN]**	0.15	0.15	0.15
Perforated sand-lime brick	≥ KSL 12	**[kN]**	0.10	0.40	0.40
Aerated concrete	AAC 2	**[kN]**	–	0.10	0.10
Aerated concrete	AAC 4	**[kN]**	–	0.15	0.20

1) Required safety factors are considered. Valid for installation and use in dry base material for temperatures in the substrate up to +24 °C (resp. short term up to +40 °C).
2) Valid for tensile load, shear load and oblique load under any angle.
3) Valid for zinc coated screws (gvz) and for screws made of stainless steel (R).
For exterior use of the zinc coated screws measures against incoming humidity have to be taken.

CHARGES

Fixation pour cadres SXR-L 14

Charges admissibles maximales en traction pour une cheville isolée et une profondeur d'ancrage de 90 mm N_{adm}.



Pour les caractéristiques exactes de résistance et de pose, il convient de se référer à la fiche technique du produit.
Les charges indiquées tiennent compte de coefficients de sécurité.